

We claim:

1. A process for preparing amines by catalytic hydrogenation of nitroaromatics and subsequent removal of the catalysts from the reaction mixture, which contains at least one aromatic amine and water, which comprises carrying out the removal of the catalysts by means of membrane filtration, which is carried out at a pressure on the suspension side of from 5 to 50 bar, a pressure difference between the suspension side and the permeate side of at least 0.3 bar and a flux rate on the suspension side of from 1 to 6 m/s.
2. A process as claimed in claim 1, wherein the pressure on the suspension side is from 10 to 30 bar.
3. A process as claimed in claim 1, wherein the filtration is carried out continuously.
4. A process as claimed in claim 1, wherein the filtration is carried out batchwise.
5. A process as claimed in claim 1, wherein the filter membrane has a pore diameter in the range from 10 nm to 20 μ m.
6. A process as claimed in claim 1, wherein the hydrogenation is carried out in a jet loop reactor.
7. A process as claimed in claim 1, wherein the hydrogenation is carried out in a jet loop reactor having an external and an internal circuit.
8. A process as claimed in claim 1, wherein the catalysts used comprise metals of transition group VIII of the Periodic Table on supports.
9. A process as claimed in claim 1, wherein the catalysts used comprise platinum, palladium and/or iridium catalysts on carbon supports.
10. A process as claimed in claim 1, wherein the hydrogenation is carried out in a jet loop reactor having an external and internal circuit, the catalysts used comprise platinum, palladium and/or iridium catalysts on carbon supports and the membrane filter is located in the external circuit of the reactor.